

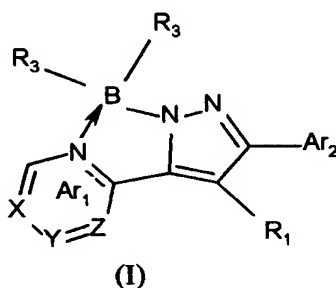
Listing of Claims

Please amend the claims as follows. This listing of claims will replace all prior versions and listings of claims in the application:

Claims

1. – 36. (Canceled)

37. (New) A boron compound having the general chemical formula (I) as follows



wherein:

Ar₁ represents a chemical group selected from the group consisting of unsubstituted and substituted monocyclic and polycyclic heteroaryl groups having at least a ring nitrogen atom for forming a coordination bond to boron as shown in formula I and, optionally, also including one or more additional ring nitrogen atoms subject to the proviso that such nitrogen atoms do not occur in adjacent positions, X and Z being selected from the group consisting of carbon and nitrogen, and wherein Y is carbon or, optionally, nitrogen if neither of X and Z is nitrogen, the substituents for said substituted heteroaryl groups, if present, being selected from the groups consisting of substituted and unsubstituted hydrocarbyl, substituted and unsubstituted hydrocarbyloxy, fluorocarbon, halo, nitrile, amino alkylamino, dialkylamino and thiophenyl groups;

Ar₂ represents a group selected from the group consisting of monocyclic and polycyclic aryl and heteroaryl groups, any of which may optionally be substituted with one or more substituent groups selected from the group consisting of substituted and unsubstituted hydrocarbyl, substituted and unsubstituted hydrocarbyloxy, fluorocarbon, halo, nitrile, amino, alkylamino, dialkylamino and thiophenyl groups;

R₁ represents hydrogen or a group selected from substituted and unsubstituted hydrocarbyl, halohydrocarbyl and halo groups; and

R₂ and **R₃** each independently represent a moiety selected from the group consisting of alkyl, cycloalkyl, cycloalkylalkyl, haloalkyl, halo, monocyclic, polycyclic, aryl, heteroaryl, aralkyl and heteroaralkyl groups, any of which may optionally be substituted with one or more moieties selected from the group consisting of alkyl, cycloalkyl, cycloalkylalkyl, haloalkyl, aryl, aralkyl, alkoxy, aryloxy, halo, nitric, amino, alkylamino and dialkylamino groups.

38. (New) The compound of claim 37, wherein **Ar₁** is selected from the group consisting of unsubstituted monocyclic and bicyclic heteroaryl groups and monocyclic and bicyclic heteroaryl groups substituted with at least one member selected from the group consisting of C₁-C₄ alkyl, C₁-C₄ alkoxy, trifluoromethyl, and fluoro groups; and unsubstituted and substituted pyridyl, pyrimidyl, pyrazinyl, quinolinyl, iso-quinolinyl, quinoxalinyl, and quinazolinyl groups.

39. (New) The compound of claim 37, wherein **Ar₂** is selected from the group consisting of unsubstituted monocyclic and 2-6 polycyclic aryl groups, and monocyclic and polycyclic aryl groups substituted with one or more members selected from the group consisting of C₁-C₄ alkyl, C₁-C₄ alkoxy, trifluoromethyl, fluoro and nitrile groups.

40. (New) The compound of claim 39, further wherein the monocyclic or

polycyclic aryl group is selected from the group consisting of phenyl, naphthyl, anthracenyl, phenanthrenyl, pyrenyl and peryleneyl groups.

41. (New) The compound of claim 37, wherein R_1 is selected from the group consisting of hydrogen, alkyl, cycloalkyl, cycloalkylalkyl, haloalkyl, monocyclic or polycyclic aryl, heteroaryl, aralkyl, heteroaralkyl, C_1 - C_4 alkyl, trifluoromethyl and fluoro groups.

42. (New) The compound of claim 37, wherein R_2 and R_3 are selected from the group consisting of phenyl and 4-substituted phenyl groups.

43. (New) The compound of claim 42, wherein the substituent in the 4-position is selected from the group consisting of C_1 - C_4 alkyl, trifluoromethyl, C_1 - C_4 alkoxy and fluoro groups.

44. (New) An electroluminescent device comprising in combination a first electrode, a layer of an electroluminescent material consisting essentially of the boron compound as claimed in claim 37, and a second electrode.

45. (New) The device of claim 44, further comprising a layer of a hole transporting material located between the first electrode, which functions as the anode, and the layer of the electroluminescent material.

46. (New) An electroluminescent device according to claim 45, wherein the hole transporting material is a film of a polymer selected from the group consisting of poly(vinylcarbazole), N,N'-diphenyl-N,N'-bis (3-methylphenyl) -1,1' -biphenyl -4,4'-diamine (TPD), polyaniline, substituted polyanilines, polythiophenes, substituted polythiophenes, polysilanes and substituted polysilanes, a polymer of a cyclic aromatic

compound, poly (p-phenylenevinylene)-PPV and copolymers thereof, PPV, poly(2,5 dialkoxyphenylene vinylene), poly (2-methoxy-5-(2-methoxypentyloxy-1,4-phenylene vinylene), poly(2-methoxypentyloxy)-1,4-phenylenevinylene), poly(2-methoxy-5-(2-dodecyloxy-1,4-phenylenevinylene), other poly(2,5 dialkoxyphenylenevinylenes) with at least one of the alkoxy groups being a long chain solubilizing alkoxy group, poly fluorenes and oligofluorenes, polyphenylenes, oligophenylenes, polyanthracenes, oligo anthracenes, polythiophenes and oligothiophenes

47. (New) An electroluminescent device according to claim 44, further comprising a layer of an electron transmitting material located between the electroluminescent material layer and the second electrode.

48. (New) An electroluminescent device according to claim 47, wherein the electron transmitting material is selected from the group consisting of metal quinolates, cyano anthracenes, 9,10 dicyano anthracene, and polystyrene sulphonates

49. (New) An electroluminescent device according to claim 47, wherein the electron transmitting material is an aluminum quinolate or lithium quinolate.

50. (New) The device of claim 47, wherein the electron transmitting material has the general chemical formula $Mx(DBM)_n$ where Mx is a metal, DBM is dibenzoyl methane, and n is the valency of Mx, or wherein a Schiff base is used in place of the DBM.

51. (New) An electroluminescent device according to claim 44, comprising a first electrode which functions as an anode, a layer of a hole transporting material, a layer of an electroluminescent material consisting essentially of the boron compound as claimed in claim 37, a layer of an electron transmitting material, and a second electrode which functions as a cathode.

52. (New) An electroluminescent device according to claim 51, further wherein the hole transmitting material and the electroluminescent material are mixed in a proportion of about 5 to 95% of the hole transmitting material to about 95 to 5% of the electroluminescent compound to form one layer.

53. (New) An electroluminescent device according to claim 51, wherein the electron transmitting material and the electroluminescent material are mixed in a proportion of about 5 to 95% of the electron transmitting material to about 95 to 5% of the electroluminescent material to form one layer.

54. (New) An electroluminescent device according to claim 51, wherein the second electrode consists essentially of a material selected from the group consisting of aluminum, calcium, lithium and silver/magnesium alloys.

55. (New) The device of claim 51, wherein the second electrode consists essentially of a material selected from the group consisting of metals having a metal fluoride layer formed thereon.

56. (New) The device of claim 55, wherein the metal fluoride is a lithium fluoride or rare earth fluoride.